

\$%^STN;HighlightOn= ***;HighlightOff=*** ;

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fields
NEWS 15 APR 04 EMBASE - Database reloaded and enhanced
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AND CURRENT DISCOVER FILE IS DATED 10 JANUARY 2005

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=> FIL .ELIZ

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

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FULL ESTIMATED COST

0.21

0.21

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=> S AMYLASE AND BACILLUS
L1 15714 AMYLASE AND BACILLUS

=> S L1 AND KSM AP1378
L2 30 L1 AND KSM AP1378

=> S L2 AND (GENE OR SEQUENCE)
7 FILES SEARCHED...
L3 19 L2 AND (GENE OR SEQUENCE)

=> DUP REM L3
PROCESSING COMPLETED FOR L3
L4 11 DUP REM L3 (8 DUPLICATES REMOVED)

=> D 1-11

L4 ANSWER 1 OF 11 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
DUPLICATE 1
AN 2003-09677 BIOTECHDS
TI Novel variant of parent Termamyl-like alpha- ***amylase*** useful for
starch liquefaction, washing and/or dishwashing, has alpha-
amylase activity and exhibits altered properties relative to the
parent alpha- ***amylase*** ;
vector-mediated ***gene*** transfer and expression in host cell
for recombinant protein production
AU SVENDSEN A; ANDERSEN C; THISTED T; VON DER OSTEN C
PA NOVOZYMES AS
PI WO 2002092797 21 Nov 2002
AI WO 2002-DK319 15 May 2002
PRAI DK 2001-1443 2 Oct 2001; DK 2001-760 15 May 2001
DT Patent
LA English
OS WPI: 2003-175077 [17]

L4 ANSWER 2 OF 11 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN

DUPLICATE 2
 AN 2002-12006 BIOTECHDS
 TI Variant of parent Termamyl-like alpha ***amylase*** , useful in detergent compositions, for starch liquefaction, ethanol production, washing and/or dish washing, and textile desizing;
 recombinant enzyme production, vector expression in host cell, polymerase chain reaction and mutagenesis
 AU THISTED T; KJAERULFF S; ANDERSEN C; FUGLSANG C C
 PA NOVOZYMES AS
 PI WO 2002010355 7 Feb 2002
 AI WO 2000-DK488 1 Aug 2000
 PRAI DK 2001-655 26 Apr 2001
 DT Patent
 LA English
 OS WPI: 2002-280633 [32]

L4 ANSWER 3 OF 11 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
 DUPLICATE 3
 AN 2002-15685 BIOTECHDS
 TI New mutant alpha- ***amylase*** , useful in detergent compositions, comprises increased productivity when prepared recombinantly and better resistance to heat;
 recombinant enzyme protein production via plasmid expression in bacterium cell, for surfactant composition and starch liquefaction
 AU ARAKI H; HAGIHARI H; HAYASHI Y; ENDO K; IGARASHI K; OZAKI K
 PA KAO CORP
 PI EP 1199356 24 Apr 2002
 AI EP 2000-123378 11 Oct 2000
 PRAI JP 2000-310605 11 Oct 2000
 DT Patent
 LA English
 OS WPI: 2002-354203 [39]

L4 ANSWER 4 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2002:284478 HCAPLUS
 DN 136:305146
 TI Recombinant mutant alkalophilic ***Bacillus*** .alpha.- ***amylase*** with improved thermostability, recombinant expression, and detergent use
 IN Araki, Hiroyuki; Endo, Keiji; Hagiwara, Hiroshi; Igarashi, Kazuaki; Hayashi, Yasuhiro; Ozaki, Katsuya
 PA Kao Corp., Japan
 SO Jpn. Kokai Tokkyo Koho, 28 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002112792	A2	20020416	JP 2000-310605	20001011
	US 2002123124	A1	20020905	US 2001-971611	20011009
	US 6743616	B2	20040601		
	EP 1199356	A2	20020424	EP 2001-123378	20011010
	EP 1199356	A3	20020515		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	CN 1348000	A	20020508	CN 2001-141253	20011011
	US 2004265959	A1	20041230	US 2004-798278	20040312
PRAI	JP 2000-310605	A	20001011		
	US 2001-971611	A1	20011009		

L4 ANSWER 5 OF 11 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
 DUPLICATE 4
 AN 2002-07276 BIOTECHDS
 TI New modified alpha- ***amylase*** derived from the genus ***Bacillus*** and/or is a Termamyl-like alpha- ***amylase*** , which has been pre-oxidized for producing maltodextrin or glucose syrup;
 useful for food, confectionary, beverage, baking, flavor, animal feed and pharmaceutical
 AU NIELSEN B R; WEIBYE M
 PA NOVOZYMES AS
 PI WO 2001096537 20 Dec 2001

AI WO 2000-DK404 14 Jun 2000
PRAI US 2000-212852 20 Jun 2000
DT Patent
LA English
OS WPI: 2002-098064 [13]

L4 ANSWER 6 OF 11 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
DUPLICATE 5

AN 2002-07723 BIOTECHDS

TI New variant of parent Termamyl-like alpha- ***amylase*** for use as a component in washing and dishwashing compositions, for textile desizing, for starch liquefaction, and for producing sweeteners and ethanol from starch;

recombinant vector-mediated ***gene*** transfer and expression in fungus or bacterium cell for use in starch liquefaction and surfactant, ethanol and sweetener preparation

AU SVENDSEN A; JORGENSEN C T; NIELSEN B R

PA NOVOZYMES AS

PI WO 2001088107 22 Nov 2001

AI WO 2000-DK323 12 May 2000

PRAI DK 2000-779 12 May 2000

DT Patent

LA English

OS WPI: 2002-106123 [14]

L4 ANSWER 7 OF 11 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
DUPLICATE 6

AN 2002-11532 BIOTECHDS

TI Novel variant of parent termamyl-like alpha- ***amylase*** useful as a component in washing and dishwashing compositions, for textile desizing, for starch liquefaction, and for producing sweeteners and ethanol from starch;

vector plasmid pJE1-mediated recombinant enzyme ***gene*** transfer and expression in Escherichia coli, surfactant and polymerase chain reaction for use in starch liquefaction, textile industry, sweetener and ethanolpreparation

AU ANDERSEN C; BORCHERT T V; NIELSEN B R

PA NOVOZYMES AS

PI WO 2001066712 13 Sep 2001

AI WO 2000-DK144 8 Mar 2000

PRAI US 2001-271382 26 Feb 2001

DT Patent

LA English

OS WPI: 2002-239612 [29]

L4 ANSWER 8 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:10699 HCAPLUS

DN 134:82718

TI Mutant .alpha.- ***amylases*** with improved thermal stability for use in detergents

IN Endo, Keiji; Igarashi, Kazuaki; Hayashi, Yasuhiro; Hagihara, Hiroshi; Ozaki, Katsuya

PA Kao Corp., Japan

SO Eur. Pat. Appl., 28 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1065277	A1	20010103	EP 2000-111911	20000613
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2001054392	A2	20010227	JP 2000-170517	20000607
	CN 1277258	A	20001220	CN 2000-118140	20000609
PRAI	JP 1999-163569	A	19990610		

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 9 OF 11 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN

AN 2001-01312 BIOTECHDS

TI A mutant alpha- ***amylase*** ;
plasmid pKF19LAMY-mediated ***gene*** transfer and expression in
Bacillus subtilis for recombinant protein production and
surfactant
PA Kao
LO Japan.
PI JP 2000245466 12 Sep 2000
AI JP 1999-48213 25 Feb 1999
PRAI JP 1999-48213 25 Feb 1999
DT Patent
LA Japanese
OS WPI: 2000-615143 [59]

L4 ANSWER 10 OF 11 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
DUPLICATE 7
AN 1999-00358 BIOTECHDS
TI ***Bacillus*** derived alpha- ***amylase*** having a mutation at
position 202;
has optimum pH in alkaline conditions and high tolerance to oxidants,
useful for production of surfactant compositions
AU Hatada Y; Ikawa K; Ito S
PA Kao
LO Tokyo, Japan.
PI WO 9844126 8 Oct 1998
AI WO 1998-JP1464 31 Mar 1998
PRAI JP 1997-80299 31 Mar 1997
DT Patent
LA Japanese
OS WPI: 1998-542707 [46]

L4 ANSWER 11 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:794818 HCAPLUS
DN 130:106926
TI Pullulanase mutants of ***Bacillus*** strain ***KSM*** -
AP1378 for preparation of detergents and starch-saccharifying
agents
IN Sumitomo, Nobuyuki; Hatada, Yuji; Ichimura, Takashi; Saito, Kazuhiro;
Kawai, Shuji; Ito, Susumu
PA Kao Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 19 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10327868	A2	19981215	JP 1997-141596	19970530
PRAI	JP 1997-141596		19970530		

=> S L1 AND KSM-AP1378
L5 30 L1 AND KSM-AP1378

=> S L5 NOT L2
L6 0 L5 NOT L2

=> S HATADA, ?/AU
L7 3697 HATADA, ?/AU

=> S L7 AND L5
L8 4 L7 AND L5

=> DUP REM L8
PROCESSING COMPLETED FOR L8
L9 2 DUP REM L8 (2 DUPLICATES REMOVED)

=> D 1,2

L9 ANSWER 1 OF 2 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
DUPLICATE 1
AN 1999-00358 BIOTECHDS

TI ***Bacillus*** derived alpha- ***amylase*** having a mutation at position 202;
 has optimum pH in alkaline conditions and high tolerance to oxidants, useful for production of surfactant compositions
 AU ***Hatada Y*** ; Ikawa K; Ito S
 PA Kao
 LO Tokyo, Japan.
 PI WO 9844126 8 Oct 1998
 AI WO 1998-JP1464 31 Mar 1998
 PRAI JP 1997-80299 31 Mar 1997
 DT Patent
 LA Japanese
 OS WPI: 1998-542707 [46]

L9 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1998:794818 HCAPLUS
 DN 130:106926

TI Pullulanase mutants of ***Bacillus*** strain ***KSM*** -
 AP1378 for preparation of detergents and starch-saccharifying agents
 IN Sumitomo, Nobuyuki; ***Hatada, Yuji*** ; Ichimura, Takashi; Saito, Kazuhiro; Kawai, Shuji; Ito, Susumu
 PA Kao Corp., Japan
 SO Jpn. Kokai Tokkyo Koho, 19 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10327868	A2	19981215	JP 1997-141596	19970530
PRAI	JP 1997-141596		19970530		

=> D L9

L9 ANSWER 1 OF 2 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
 DUPLICATE 1
 AN 1999-00358 BIOTECHDS
 TI ***Bacillus*** derived alpha- ***amylase*** having a mutation at position 202;
 has optimum pH in alkaline conditions and high tolerance to oxidants, useful for production of surfactant compositions
 AU ***Hatada Y*** ; Ikawa K; Ito S
 PA Kao
 LO Tokyo, Japan.
 PI WO 9844126 8 Oct 1998
 AI WO 1998-JP1464 31 Mar 1998
 PRAI JP 1997-80299 31 Mar 1997
 DT Patent
 LA Japanese
 OS WPI: 1998-542707 [46]

=> D 1 AB

L9 ANSWER 1 OF 2 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
 AB Novel mutated forms of the liquified alkaline alpha- ***amylase*** (EC-3.2.1.1) derived from ***Bacillus*** species KSM-API378 (FERM BP-3048) are claimed which have methionine at position 202 either deleted or substituted by another amino acid. The mutated enzyme may have other mutations but is at least 95.2% homologous to the original enzyme. The mutated enzyme has optimum pH in alkaline conditions, a high alpha- ***amylase*** activity, and a high a sustained tolerance to oxidizing substances. Also claimed are genes encoding the mutated enzyme and detergent compositions containing it. The enzyme may be used in the formulation of liquid, powder or granular detergent compositions, especially those containing bleaches and oxidants as it retains a high activity in their presence. In an example, the ***Bacillus*** ***KSM*** - ***AP1378*** gene was inserted into pHSPLAMY2 isolated from the plasmid and introduced into the vector plasmid pKF19K to give

pKF19LAMY. The gene was then mutated at position 202, isolated and inserted into vector plasmid pHSP64 and used to transform ***Bacillus*** subtilis ISW1214. Activity tolerance to hydrogen peroxide was 78% and 4% for the mutated and unmutated enzyme forms respectively. (42pp)

=> DIS HIS

(FILE 'HOME' ENTERED AT 13:23:55 ON 29 APR 2005)

FILE 'MEDLINE, SCISEARCH, LIFESCI, BIOTECHDS, BIOSIS, EMBASE, HCAPLUS, NTIS, ESBIODBASE, BIOTECHNO, WPIDS' ENTERED AT 13:24:15 ON 29 APR 2005

L1 15714 S AMYLASE AND BACILLUS
L2 30 S L1 AND KSM AP1378
L3 19 S L2 AND (GENE OR SEQUENCE)
L4 11 DUP REM L3 (8 DUPLICATES REMOVED)
L5 30 S L1 AND KSM-AP1378
L6 0 S L5 NOT L2
L7 3697 S. HATADA, ?/AU
L8 4 S L7 AND L5
L9 2 DUP REM L8 (2 DUPLICATES REMOVED)

=> LOG H

COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
51.71	51.92

FULL ESTIMATED COST

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WEST Search History

DATE: Friday, April 29, 2005

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<input type="checkbox"/>	L14	L11 AND L4	0
<input type="checkbox"/>	L13	L11 AND L3	1
<input type="checkbox"/>	L12	L11 AND L2	1
<input type="checkbox"/>	L11	6638748	2
	<i>DB=USPT; PLUR=YES; OP=ADJ</i>		
<input type="checkbox"/>	L10	US-6486113-B1.did.	1
<input type="checkbox"/>	L9	US-6486113-B1.did.	1
	<i>DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI; PLUR=YES; OP=ADJ</i>		
<input type="checkbox"/>	L8	L7 AND L4	1
<input type="checkbox"/>	L7	HATADA.IN.	2160
<input type="checkbox"/>	L6	L5 NOT L2	0
<input type="checkbox"/>	L5	L1 AND KSM-AP1378	26
<input type="checkbox"/>	L4	L3 AND (MUTANT OR MODIFIED OR VARIANT)	16
<input type="checkbox"/>	L3	L2 AND (GENE OR SEQUENCE)	23
<input type="checkbox"/>	L2	L1 AND KSM AP1378	29
<input type="checkbox"/>	L1	AMYLASE AND BACILLUS	8250

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Search Results - Record(s) 1 through 10 of 16 returned.☐ 1. Document ID: US 20040265959 A1**Using default format because multiple data bases are involved.**

L4: Entry 1 of 16

File: PGPB

Dec 30, 2004

PGPUB-DOCUMENT-NUMBER: 20040265959

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040265959 A1

TITLE: Highly productive alpha-amylases

PUBLICATION-DATE: December 30, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Araki, Hiroyuki	Tochigi		JP	
Endo, Keiji	Tochigi		JP	
Hagihara, Hiroshi	Tochigi		JP	
Igarashi, Kazuaki	Tochigi		JP	
Hayashi, Yasuhiro	Tochigi		JP	
Ozaki, Katsuya	Tochigi		JP	

US-CL-CURRENT: 435/69.1; 435/204, 435/252.3, 435/320.1, 510/320, 536/23.2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Drawings
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☐ 2. Document ID: US 20040096952 A1

L4: Entry 2 of 16

File: PGPB

May 20, 2004

PGPUB-DOCUMENT-NUMBER: 20040096952

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040096952 A1

TITLE: Alpha-amylase variant with altered properties

PUBLICATION-DATE: May 20, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Svendsen, Allan	Horsholm		DK	
Andersen, Casten	Vaerlose		DK	

Thisted, Thomas Frederikssund DK
Von Der Osten, Claus Lyngby DK

US-CL-CURRENT: 435/202; 435/252.31, 510/226, 510/320

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Data
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☐ 3. Document ID: US 20040091994 A1

L4: Entry 3 of 16

File: PGPB

May 13, 2004

PGPUB-DOCUMENT-NUMBER: 20040091994
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040091994 A1

TITLE: Alpha-amylase variant with altered properties

PUBLICATION-DATE: May 13, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Andersen, Carsten	Vaerlose		DK	

US-CL-CURRENT: 435/202; 435/252.3, 435/320.1, 435/69.1, 510/220, 510/320, 536/23.2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Data
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☐ 4. Document ID: US 20030211958 A1

L4: Entry 4 of 16

File: PGPB

Nov 13, 2003

PGPUB-DOCUMENT-NUMBER: 20030211958
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030211958 A1

TITLE: Alpha-amylase mutants

PUBLICATION-DATE: November 13, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Svendsen, Allan	Birkerod		DK	
Borchert, Torben Vedel	Copenhagen		DK	
Bisgard-Frantzen, Henrik	Bagsvaerd		DK	
Outtrup, Helle	Ballerup		DK	
Nielsen, Bjarne Ronfeldt	Virum		DK	
Nielsen, Vibeke Skovgaard	Bagsvaerd		DK	
Hedegaard, Lisbeth	Skodsborg		DK	

US-CL-CURRENT: 510/226; 435/202, 435/320.1, 435/325, 435/69.1, 510/320, 536/23.2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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☐ 5. Document ID: US 20030129718 A1

L4: Entry 5 of 16

File: PGPB

Jul 10, 2003

PGPUB-DOCUMENT-NUMBER: 20030129718

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030129718 A1

TITLE: Amylase variants

PUBLICATION-DATE: July 10, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Andersen, Carsten	Vaerloose		DK	
Borchert, Torben Vedel	Birkerod		DK	
Nielsen, Bjarne Ronfeldt	Virum		DK	

US-CL-CURRENT: 435/183; 510/392

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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☐ 6. Document ID: US 20020155574 A1

L4: Entry 6 of 16

File: PGPB

Oct 24, 2002

PGPUB-DOCUMENT-NUMBER: 20020155574

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020155574 A1

TITLE: Alpha-amylase mutants with altered properties

PUBLICATION-DATE: October 24, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Thisted, Thomas	Rungsted Kyst		DK	
Kjaerulff, Soren	Vanlose		DK	
Andersen, Carsten	Vaerloese		DK	
Fuglsang, Claus Crone	Niva		DK	

US-CL-CURRENT: 435/202; 435/203, 435/320.1, 435/325, 435/69.1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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☐ 7. Document ID: US 20020123124 A1

L4: Entry 7 of 16

File: PGPB

Sep 5, 2002

PGPUB-DOCUMENT-NUMBER: 20020123124
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020123124 A1

TITLE: Highly productive alpha-amylases

PUBLICATION-DATE: September 5, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Araki, Hiroyuki	Haga-gun		JP	
Endo, Keiji	Haga-gun		JP	
Hagihara, Hiroshi	Haga-gun		JP	
Igarashi, Kazuaki	Haga-gun		JP	
Hayashi, Yasuhiro	Haga-gun		JP	
Ozaki, Katsuya	Haga-gun		JP	

US-CL-CURRENT: 435/202; 435/320.1, 435/325, 435/69.1, 536/23.2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Da
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☐ 8. Document ID: US 20020068352 A1

L4: Entry 8 of 16

File: PGPB

Jun 6, 2002

PGPUB-DOCUMENT-NUMBER: 20020068352
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020068352 A1

TITLE: Alpha-amylase variants with altered 1, 6-activity

PUBLICATION-DATE: June 6, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Svendsen, Allan	Horsholm		DK	
Jorgensen, Christel Thea	Kobenhavn O		DK	
Nielsen, Bjarne Ronfeldt	Virum		DK	

US-CL-CURRENT: 435/202; 435/183, 435/195, 435/69.1, 510/392, 510/393

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Da
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☐ 9. Document ID: US 6743616 B2

L4: Entry 9 of 16

File: USPT

Jun 1, 2004

US-PAT-NO: 6743616

DOCUMENT-IDENTIFIER: US 6743616 B2

**** See image for Certificate of Correction ****TITLE: Highly productive alpha-amylases

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWAC	Draw. D
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☐ 10. Document ID: US 6623948 B1

L4: Entry 10 of 16

File: USPT

Sep 23, 2003

US-PAT-NO: 6623948

DOCUMENT-IDENTIFIER: US 6623948 B1

TITLE: Nucleic acid sequences encoding alkaline alpha-amylases

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWAC	Draw. D
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Search Results - Record(s) 11 through 16 of 16 returned.

☐ 11. Document ID: US 6528298 B1**Using default format because multiple data bases are involved.**

L4: Entry 11 of 16

File: USPT

Mar 4, 2003

US-PAT-NO: 6528298

DOCUMENT-IDENTIFIER: US 6528298 B1

TITLE: .alpha.-amylase mutants

DATE-ISSUED: March 4, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Svendsen; Allan	Birkerod			DK
Borchert; Torben Vedel	Copenhagen			DK
Bisgaard-Frantzen; Henrik	Bagsvaerd			DK
Outtrup; Helle	Ballerup			DK
Nielsen; Bjarne Ronfeldt	Virum			DK
Nielsen; Vibeke Skovgaard	Bagsv.oe butted.rd			DK
Hedegaard; Lisbeth	Skodsborg			DK

US-CL-CURRENT: 435/202; 435/183, 435/200, 435/201, 435/252.3, 435/320.1, 435/69.1,
536/23.2, 536/23.7

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw D
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☐ 12. Document ID: US 6361989 B1

L4: Entry 12 of 16

File: USPT

Mar 26, 2002

US-PAT-NO: 6361989

DOCUMENT-IDENTIFIER: US 6361989 B1

TITLE: .alpha.-amylase and .alpha.-amylase variants

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw D
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☐ 13. Document ID: US 6309871 B1

L4: Entry 13 of 16

File: USPT

Oct 30, 2001

US-PAT-NO: 6309871

DOCUMENT-IDENTIFIER: US 6309871 B1

TITLE: Polypeptides having alkaline .alpha.-amylase activity

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw D
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☐ 14. Document ID: JP 2002112792 A

L4: Entry 14 of 16

File: JPAB

Apr 16, 2002

PUB-NO: JP02002112792A

DOCUMENT-IDENTIFIER: JP 2002112792 A

TITLE: HIGHLY PRODUCTIVE α -AMYLASE

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw D
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☐ 15. Document ID: US 20040265959 A1, EP 1199356 A2, JP 2002112792 A, CN 1348000 A, US 20020123124 A1, US 6743616 B2

L4: Entry 15 of 16

File: DWPI

Dec 30, 2004

DERWENT-ACC-NO: 2002-354203

DERWENT-WEEK: 200503

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TITLE: New mutant alpha-amylase, useful in detergent compositions, comprises increased productivity when prepared recombinantly and better resistance to heat

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw D
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☐ 16. Document ID: US 6486113 B1, WO 9844126 A1, EP 985731 A1, CN 1251613 A, JP 10541455 X

L4: Entry 16 of 16

File: DWPI

Nov 26, 2002

DERWENT-ACC-NO: 1998-542707

DERWENT-WEEK: 200281

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TITLE: Bacillus derived alpha amylase having mutation at position 202 - has optimum pH in alkaline conditions and high tolerance to oxidants, useful for production of detergent compositions

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw D
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